UNITED STATES DISTRICT COURT SOUTHERN DISTRICT OF NEW YORK

BRASSICA PROTECTION PRODUCTS LLC and THE JOHNS HOPKINS UNIVERSITY,

Plaintiffs,

-against-

CAUDILL SEED & WAREHOUSE CO., INC. d/b/a CAUDILL SEED CO.,

Defendant.

07 Civ. 7844 (SAS)

Filed Electronically

PLAINTIFFS' REPLY MEMORANDUM OF LAW REGARDING CLAIM CONSTRUCTION

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Defendant's claim construction brief pays lip service to the law of claim construction, but misapplies it in interpreting "extract" and ignores it entirely in interpreting "food product." As a result, Defendant offers proposed constructions that are legally unsupportable. Their proposed constructions are also belied by the very language of the claims themselves, inconsistent with Defendant's own explanation of what the proposed constructions mean, and contrary to the goals of the asserted patents as established by both intrinsic and extrinsic evidence. In short, Defendant's proposed constructions are not supportable, and the Court should construe "extract" and "food product" as proposed by Plaintiffs.

I. DEFENDANT'S PROPOSED CONSTRUCTION OF "EXTRACT" IS UNSUPPORTABLE

Defendant acknowledges that the language of a patent's claims is of primary importance for purposes of claim construction.¹ *See Caudill Seed & Warehouse Co., Inc.'s Claim Construction Brief ("Def. Br.") at 5, 16.* Yet, Defendant wholly misconstrues the asserted patents' claim language to achieve a disingenuous construction that is inconsistent with the meaning Defendant ascribes to it.

Defendant proposes that "extract" should mean: "material removed from a solid by use of a solvent, wherein the extract *can contain* the removed material and the solvent." *Def. Br. at 16* (emphasis added). Thus, under Defendant's proposed construction, the "extract" can comprise either (1) the "material" that is removed from a cruciferous sprout or seed by a solvent, whether or not it contains glucosinolates and isothiocyanates (defined by Defendant as "G&I"), or (2) the "material" that is removed from the sprout or seed by a solvent, together with the solvent used to remove such material, whether or not it contains the desired chemoprotective G&I.

Phillips v. AWH Corp., 415 F.3d 1303, 1312 (Fed. Cir. 2005) (quoting Merrill v. Yeomans, 94 U.S. 568, 570 (1876)).

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Inconsistently, however, Defendant asserts in its brief that its proposed construction means that "the extract contains solvent *and* G&I." *Id.* at 16, 19 (emphasis added). Neither Defendant's proposed construction nor its inconsistent explanation of it is supportable.

As explained in Plaintiffs' Memorandum of Law Regarding Claim Construction ("Pls. Mem."), the claim language of the asserted patents requires that the "extract" contain chemoprotective G&I. *Pls. Mem. at 8-10*. This is the stated purpose of the invention, and any construction that would result in an "extract" being merely solvent and other material, with no G&I, is untenable. *See Phillips*, 415 F.3d at 1316; *see also Pls. Mem. at 10, Exh. 1A (the '895 patent), col. 1, ll. 15-26 and col. 6, l. 65-col. 7, l. 3.* Equally untenable is a construction that *requires* solvent to be present in the "extract." This would require improperly reading a limitation into the claims. *See, e.g., Renishaw v. Marposs Societa' Per Azioni*, 158 F.3d 1243, 1248-1250 (Fed. Cir. 1988).

Consideration of Claims 9 and 18 of the '567 patent demonstrates Defendant's error. Claim 18 recites an "extract" that is prepared according to, among others, the method of Claim 9. Claim 9's method includes three steps: (i) extracting G&I from cruciferous material, (ii) removing the extracted material from the solvent, and (iii) recovering the G&I. See Pls. Mem. at 8; Exh. 2A (the '567 patent), col. 22, ll. 22-32. In other words, the recovered material is the G&I and it must be present in the "extract." The claim does not require that solvent also be included in the "extract." This conclusion is confirmed by Claim 15 of the '895 patent and Claims 10, 13, 15-24, and 26 of the '770 patent. There, the methods include steps of "recovering" the extracted chemoprotective G&I, not the solvents. Pls. Mem. at 9. Moreover, Claims 9 and 10 of the '122 patent are directed to "extracts" comprising pills and tablets, without requiring that solvent be included. Id. at 10.

Defendant's proposed construction of "extract" is not assisted by reference to the verb form "extracting." While the asserted patents contemplate use of a non-toxic solvent, by asserting that the solvent must remain in the "extract," Defendant is conflating the extraction process with its result. A non-toxic solvent may be used in the process recited, for example, in Claim 9 of the '567 patent for obtaining the "extract," but the claim is silent regarding whether the resulting "extract" contains such solvent. *Exh. 2A (the '567 patent), col. 22, ll. 22-32.* Again, reading a limitation into this claim is improper as a matter of law. *See, e.g., Specialty Composites v. Cabot Corp.*, 845 F.2d 981, 986-88 (Fed. Cir. 1988).

Absent any support from the claims themselves, Defendant seeks to rely heavily on inapt extrinsic evidence. In particular, Defendant cites to texts unrelated to the type of extraction disclosed by the asserted patents. This is especially misplaced where, as here, the claim language is clear and the extrinsic evidence is contrary to the plain language of the claims. *See, e.g., Vitronics Corp. v. Conceptronic, Inc.,* 90 F.3d 1576, 1584 (Fed. Cir. 1996); *Renishaw,* 158 F.3d at 1250 ("[A] common meaning, such as one expressed in a relevant dictionary, that flies in the face of the patent disclosure is undeserving of fealty."). Chemical engineering texts, information pertaining to liquid-liquid extraction, and information on sugar syrups are simply irrelevant. The patents are directed to extracts from *solid,* natural food products. *See Exh. 7,* ¶ 25, Exh. 9, ¶ ¶ 11-12. Similarly, Defendant's expert, Dr. Zeigler, provides no helpful guidance given his lack of expertise in the specific art relevant to the asserted inventions. As Defendant notes, one skilled in the art must "of necessity have the capability of understanding the scientific and engineering principles applicable to the pertinent art." *Def. Br. at 8.* Dr. Zeigler, however, purports to be an expert in chocolate. Exh. 12, p. 7, II. 10-15; p. 18, II. 7-14; p. 67, II. 4-6.

Defendant's proposed construction of "extract," and/or its inconsistent interpretation of

its proposed construction, is also not supported by the asserted patents' common specification or by their prosecution history. Defendant's interpretation of this intrinsic evidence is misguided at best. *See Def. Br. at 20*. Indeed, the portions of the specification cited by Defendant expressly discuss the extraction of chemoprotective G&I from cruciferous plant tissues. *Id.*

Finally, Defendant's reference to the prosecution history for purposes of construing "extract" is off point. The discussion does not even address whether an "extract" must contain a solvent, or whether it may be a material without any G&I. *See also Pls. Mem. at 14*.

The patents make clear that an "extract" is the result of a process that yields the necessary amounts of chemoprotective G&I. That is the intention of the inventions and a proper claim construction, as Plaintiffs propose, must give recognition to that intention.

II. DEFENDANT'S PROPOSED CONSTRUCTION OF "FOOD PRODUCT" IS ERRONEOUS

Defendant proposes that a "food product" must include sprouts or sprout extracts. This is inconsistent with Defendant's own proposed construction of "extract," and is belied by the language of the asserted claims – which Defendant totally ignores – and the entire specification.

While Defendant argues that a "food product" must contain sprouts or sprout extracts, it conversely argues in connection with "extract" that the verb form – "extracting" – means removing G&I from "seeds, sprouts, etc." Def. Br. at 16. According to Defendant, therefore, the result of the extraction process – the "extract" – may be from a sprout, but also may be from a seed or other cruciferous material. How could a material, i.e., a "food product," extracted from a seed or other material that is not a sprout, include sprouts, especially when the patents' claim language do not impose such a limitation?

Indeed, the patents' claim language is to the contrary. Claim 12 of the '122 patent, for example, recites "[a] food product comprising a source of glucosinolates or isothiocyanates,

wherein said glucosinolate or isothiocyanate source is *a* cruciferous seed *or* cruciferous sprout, *or* extract of said seed *or* sprout...." *Exh. 3A (the '122 patent), col. 22, ll. 27-30* (emphasis added). If the recitation of "food product" required the claimed composition to contain sprouts or sprout extracts, it would state such a requirement rather than recite sources for the food product in the alternative. *See, e.g., Schumer v. Lab. Computer Sys., Inc., 308* F.3d 1304, 1311-12 (Fed. Cir. 2002)(construing "or" to mean that items in a sequence are alternatives). Moreover, if the term "food product" in Claim 12 necessarily included "sprouts," then the explicit recitation of, *inter alia,* "sprout," would be superfluous. Defendant's proposed construction should therefore be rejected. *See, e.g., Primos, Inc. v. Hunter's Specialties, Inc., 451* F.3d 841, 847-48 (Fed. Cir. 2006) (rejecting construction that would render an explicit claim term superfluous).

Similarly, Claim 15 of the '770 patent recites a method of making a "food product" that contains G&I from "plant tissue ... selected from the group consisting of cruciferous sprouts ..., cruciferous seeds, plants and plant parts." *Exh. 5A (the '770 patent), col. 22, ll. 54-57.* Many of the other asserted claims are similar.² In other words, a "food product" for purposes of the asserted patents may contain solely the extract of a cruciferous seed or other plant part, and need not contain sprouts or sprout extracts. And, as explained by Plaintiffs, a "food product" may be broader than that for purposes of the asserted patents, and should thus be construed to comprise any ingestible substance containing beneficial amounts of G&I. *See Pls. Mem. at 15-17*.

Defendant's selective reliance on only one portion of the common specification does not compel a contrary conclusion. As explained in Plaintiffs' initial memorandum, in addition to ignoring the patents' claim language, Defendant seeks to rely on only that part of the

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See, e.g., Claim 15 of the '895 patent (seeds, sprouts, plants or plant parts), Exh. 1A, col. 22, ll. 58; Claim 9 of the '567 patent (sprouts or seeds or a combination thereof), Exh. 2A, col. 22, ll. 22-32; Claim 1 of the '122 patent (seed or sprout), Exh. 3A, col. 21, ll. 55-60.

specification that is included in the "Definitions" subsection, which states that a food product "is any ingestible preparation containing the sprouts of the instant invention, or extracts or preparations made from these sprouts." *Exh. 1A (the '895 patent), col. 6, ll. 27-29.* Defendant, however, ignores other parts of the specification, including the very next section. *Pls. Mem. at 20-21.* Such a selective reading of the specification is improper, especially since it would be inconsistent with the patents' claim language and inconsistent with Federal Circuit precedent.

In *Pfizer, Inc. v. Teva Pharms. USA, Inc.*, 429 F.3d 1364 (Fed. Cir. 2005), the Federal Circuit rejected a contention that the district court erred by "not adopting an explicit, narrow definition of 'saccharides' set forth in the [asserted] patent." Although the portion of the specification in *Pfizer* described what the "invention deals with" as "saccharides (*i.e.*, sugars)," the court found that limiting "saccharides" to sugars would improperly fail to consider other portions of the specification discussing saccharides:

[T]he problem with [defendant's] argument is that it ignores the fact that the person of ordinary skill in the art is deemed to have read the claim term in the context of the entire patent. *Phillips*, 415 F.3d at 1313. *See also Sandisk Corp. v. Memorex Prods, Inc.*, 415 F.3d 1278, 1285 (Fed. Cir. 2005) ("The court must always read the claims in view of the *full* specification." (emphasis added)). It is necessary to consider the specification as a whole, and to read all portions of the written description, if possible, in a manner that renders the patent internally consistent." *Budde v. Harley-Davidson*, 250 F.3d 1369, 1379-80 (Fed. Cir. 2001).

Pfizer, 429 F.3d 1373. The same problem exists here with Defendant's proposed narrow construction of "food product." In particular, Defendant ignores those portions of the specification that state that the use of crucifer seeds, or extracts from seeds, in food products is within the scope of the invention, and that food products "may include sprouts, seeds or extracts of sprouts or seeds...." Exh. 1A (the '895 patent), col. 11, ll. 37-60) (emphasis added); see Pls. Mem. at 18-19. Defendant also ignores the Summary of Invention, which states, "[a] further embodiment of the present invention provides a method of preparing a food product comprising

extracting glucosinolates and isothiocyanates with a solvent from cruciferous seeds, sprouts, plants or plant parts." *Exh. 1A (the '895 patent), col. 5, ll. 9-12.*

The Examples in the specification also discuss the advantages of using seeds. Example 3 states that: "Phase 2 enzyme-inducer potential is highest in seeds, and decrease[s] gradually during early growth of seedlings. ... As can be seen in FIG. 1, Phase 2 enzyme-inducer potential per gram of plant is highest in seeds, but decreases gradually following germination." *Id. at col.* 13, 11. 35-67. Thus, aside from the claims themselves, the specification, read as a whole, confirms that the inventors contemplated "food products" to include any combination of one or more of sprouts, seeds, plants, plant parts, or extracts thereof. The inventors did not intend "food product" to require the presence of sprouts or sprout extracts.

Sinorgchem Co., Shandong v. Int'l Trade Comm'n, 511 F.3d 1132 (Fed. Cir. 2007), upon which Defendant places reliance, is not to the contrary. While it is true that a "patentee must be bound by the express definition" he provides when "the drafter clearly, deliberately, and precisely define[s] the term" (id. at 1136), Sinorgchem does not stand for the proposition that it is unnecessary to read the specification as a whole in interpreting patent claims. See, e.g., Merck & Co. v. Teva Pharms. USA, Inc., 395 F.3d 1364, 1370-72 (Fed. Cir. 2005) (noting that the patentee had not acted as his own lexicographer because the alleged definition was not set out with the requisite "reasonable clarity, deliberateness, and precision" and that other portions of the specification provided context for the term that suggested a broader meaning). In Sinorgchem, the Federal Circuit found text in the patent specification that it interpreted as a definition of the claim term "controlled amount." The court looked further, however, reviewed the rest of the specification and the claims, and found that the court's construction, based upon the definition, was consistent with the claims. Sinorgchem, 511 F.3d at 1136, 1138-40. By

contrast, here, Defendant's proposed construction would require the Court to ignore the claim language and the complete specification, and instead to adopt a narrow definition of "food product" that is internally inconsistent when the patents are considered as a whole.

Defendant's lengthy analysis of the patents' prosecution history is equally misplaced. Defendant argues that during prosecution the inventors "argued repeatedly that their claims were patentable over the prior art because they provided 'food products' or 'human food products' that comprised the particular cruciferous sprouts or sprout extracts identified in the patents." *Def. Br.* at 11. From this, Defendant draws the false inference that "those terms are limited to food products that contain sprouts or sprout extracts." *Id.* This makes no sense.

During prosecution of the '895 patent, the claims were rejected as purportedly obvious because "Kenjirou discloses broccoli sprouts (see abstract)." *Exh. 1C at 1-C31*. That is, the Examiner asserted there was a *prima facie* case of obviousness due to Kenjirou's disclosure of sprouts. (Where one species within the scope of a generic claim is found in the prior art, the claim is unpatentable. *See, e.g., In re Gosteli*, 872 F.2d 1008 (Fed. Cir. 1989).) To rebut a *prima facie* case of obviousness, an applicant need only provide a showing of facts supporting the opposite conclusion. *In re Kumar*, 418 F.3d 1361, 1368 (Fed. Cir. 2005). That is precisely what the inventors did – they demonstrated that Kenjirou did *not* disclose broccoli sprouts, nor did any of the other references cited by the Examiner. *Exh. 1C at 1-C37-49*. Professor Talalay's declaration was to the same effect. *Exh. 1D at 1-D12-17*.

The inventors did not address the rejected claims' recitation of cruciferous seeds, plants, or plant parts because that information was not necessary to rebut the Examiner's sprout-based conclusion; those features were never asserted as a basis of unpatentability. "Thus, there is no basis for an assertion that [the inventors are] seeking to recapture anything which was

surrendered to obtain the patent, the essence of prosecution history estoppel." Read Corp. v. Portec, Inc., 970 F.2d 816, 825 (Fed. Cir. 1992).

The same is true with respect to the '567 patent. Again, the Examiner rejected the pending claims over prior art which purportedly disclosed broccoli sprouts. Exh. 2D at 2-D12-14; Exh. 2C at 2-C48-51. Again, the inventors argued successfully that the cited art did not teach broccoli sprouts, and submitted a declaration from Professor Talalay which made the same argument. Exh. 2D at 2-D27-33; Exh. 2E at 2-E28-36. The inventors' arguments centered on sprouts because that was the basis for the Examiner's rejection.³

Thus, in response to the Examiner's sprout-based obviousness objection, the inventors surrendered nothing regarding seeds, plants, or plant parts, and they certainly did not make a "clear and unmistakable disavowal of scope during prosecution." Purdue Pharma L.P. v. Endo Pharms. Inc., 438 F.3d 1123, 1136 (Fed. Cir. 2006).

III. DEFENDANT'S CONSTRUCTIONS OF "CRUCIFER" AND OTHER TERMS ARE WRONG AND UNNECESSARY

Defendant argues that "crucifer" and "cruciferous" should be construed to be limited to the particular sprouts described in the patents' specification. But limiting the meaning of these terms either to sprouts in general or to the particular sprouts listed in the specification would impermissibly read limitations from the specification into the claims. See, e.g., Phillips, 415 F.3d at 1323. The list of plant species and cultivars is plainly not a definition of "crucifer" or "cruciferous," but rather examples of "suitable" sprouts (using words like "generally" ('895

Defendant also points to the inventors' argument from the prosecution of a related, unasserted U.S. Patent No. 5,968,505 ("the '505 patent"). But Defendant's argument with respect to this patent is weaker still, because all of the claims of the '505 patent are explicitly limited to sprouts and sprout extracts. Exh. 6A, col. 21, l. 54-col. 24, l. 9. Where the claims are explicitly limited to sprouts, an argument that the claimed food products contain sprouts cannot reasonably be extended to claims which are not so limited. See, e.g., Abtox, Inc. v. Exitron Corp., 122 F.3d 1019, 1026-27 (Fed. Cir. 1997).

patent, col. 10, l. 29), "typically" (col 10, l. 33), and "preferably" (col. 10, l. 34)). Moreover, reading "cruciferous" to require sprouts makes no sense where the claims recite "cruciferous seeds." See, e.g., Claim 9 of the '567 patent. Instead, as discussed in Plaintiffs' brief, "crucifer" and "cruciferous" simply refer to plants of the family Cruciferae. Exh. 1A (the '895 patent), col. 10, ll. 32-34; see also Pls. Mem. at 22.

The other phrases that Defendant argues require special construction (*Def. Br. at 23-24*) are simply identified in a chart included at the end of Defendant's brief. As explained (*Pls. Mem. at 22-23*), five of these phrases include "extract" or a variant thereof, such as "extracting" or "extracted," and interpretation of these phrases can be resolved with a correct interpretation of "extract." Defendant argues that three of these additional phrases require construction because they are indefinite.⁴ But, whether claim language is indefinite under 35 U.S.C. §112, ¶ 2 depends on the interpretation of the language by one of ordinary skill in the art at the time the invention was made. *See, e.g., Solomon v. Kimberly-Clark Corp.*, 216 F.3d 1372, 1379 (Fed. Cir. 2000). Defendant offers only attorney argument, unsupported by evidence, that one of ordinary skill would have found the claims indefinite. Moreover, as Plaintiffs explain, the meaning of these terms is evident without the need of special construction. *Pls. Mem. at 22-23*.

CONCLUSION

Plaintiffs respectfully submit that their proposed claim constructions for the terms "extract" and "food product" should be adopted, and that the additional claim terms for which Defendant seeks construction should be treated, if at all, as set forth in Appendix B to the parties' Joint Claim Construction and Prehearing Statement.

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[&]quot;Non-toxic levels of indole glucosinolates and their breakdown products and goitrogenic hydroxybutenyl glucosinolates;" "Extracting glucosinolates and isothiocyanates with a non-toxic solvent and isothiocyanates from cruciferous seeds, sprouts, plants or plant parts;" and "Homogenizing said plant tissue with said non-toxic solvent." *Def. Br. at 23-24*.

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Respectfully submitted,

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